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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,067	10/12/2001	David Capano	0830.061A	1830

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David A. Pascarella, Esq.
Heslin Rothenberg Farley & Mesiti P.C.
5 Columbia Circle
Albany, NY 12203

EXAMINER

POPE, DARYL C

ART UNIT	PAPER NUMBER
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2632

DATE MAILED: 02/27/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/977,067

Applicant(s)

CAPANO ET AL.

Examiner

DARYL C POPE

Art Unit

2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

2. Claim 7 is objected to because of the following informalities:

1) Claim 7 line 6, "the telephone line" has not antecedent basis.

Appropriate correction is required.

3. The finality of the previous office action has been withdrawn in view of new grounds of rejection as follows.

ART REJECTION:

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-13, and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fewel(6,377,171) in view of Cornick(6,261,446).**

-- In considering **claim 1**, the claimed subject matter that is met by Fewel includes:

1) the claimed pump station is met by the filter vessel(14) including filter(16);

2) the claimed obtaining data regarding the pump station is met by the meters and transmitters(20,32,36) obtaining operating data at the vessel(see: column 2, lines 7-12);

3) the claimed transferring the data from the first locations via a communications network to a central computing unit at a second location is met by the filter(14) which is located at a first location transferring data to a computer system(24) which is remotely located from the filter vessel(see: column 1, lines 59 et seq; column 2, lines 1-16);

4) the claimed data comprising data regarding maintenance warnings and data comprising data regarding the operation of the station and determining at the central computing unit maintenance warnings for the station is met by the computer system(24) containing programmed algorithms which determine alarm conditions such as rupture or leakage(see; column 2, lines 46 et seq).

- **Fewel does not show:**

1) the claimed system for monitoring a plurality of grinder pump stations.

Although not the system of Fewel is utilized for monitoring filter stations, it is obvious that grinder pump stations are forms of filter stations. Use of systems which monitor Grinder pump stations are well known in the art.

In related art, Cornick teaches monitoring of the operation of grinder pump stations(10), and as well transmission of data concerning the operation of the stations to a CPU(90)(see: column 8, lines 66 et seq; column 9, lines 1-38. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate and therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute grinder pump stations(10) of Cornick in place of or in addition to the filter vessel(14) of Fewel, since the grinder pumps stations would have constituted filter stations that would have been readily

monitored by the system of Fewel, thereby allowing monitoring of the proper operation of the pumps from a remote station.

Furthermore, it would have also have been obvious to allow monitoring of plural grinder pump stations by the system of Fewel in view of Cornick since this would have allowed a broader range of systems to be monitored thereby alleviating the need of on site personnel to be present at each grinder station in order to monitor the proper operation of each station.

-- In considering **claim 2**, it would have been obvious that the claimed transferring would have comprised accessing the data at the first locations using the central computing unit since the computer system(24) of Fewel would have allowed monitoring and control of the filters remotely from a single location from any geographical position with adequate communication to the computer system, which therefore implies that an authorized operator would have been able to access to data as desired via connection to the computer system(24).

As well, all other claimed subject matter is met as discussed in claim 1 above.

-- In considering **claim 3**, as well, it would have been obvious to one of ordinary skill in the art at the time the invention was made to automatically transmit data from the first location to the central computing unit, since monitoring of the vessels would have been a constant process, and therefore automatic data transmission would have been necessary in order to maintain the most efficient monitoring system, since alarm condition would have needed to be monitored without the necessity of human intervention.

As well, all other claimed subject matter is met as discussed in claim 1 above.

-- **Claim 5** recites subject matter that is met as discussed in claim 1 above, as well as:

1) the claimed comparing an operating parameter of the stations over time to determine the maintenance warnings is met by the computer system calculating data with respect to several time intervals(see: column 2, lines 46-50).

-- **Claim 6** recites subject matter that is met as discussed in claim 1 above, as well as:

1) the claimed comparing an operating parameter of the stations to a predetermined criteria to determine the maintenance warnings is met(see: column 2, lines 46-60).

-- **Claims 4 and 7** recite subject matter that is met as discussed in claim 1 above, except for:

- **Fewel does not show:**

1) the claimed processor;

2) the claimed modem board connectable to the processor;

3) the claimed modem board or processor comprising an override to allow use of a telephone by a homeowner over use of the telephone line by the modem board during transmission of data from the processor to the central computing unit.

Firstly, with regards to the processor, upon incorporation of the grinder pumps of Cornick into the system of Fewel, it would have been obvious to one of ordinary skill in the art at the time the invention was made to also incorporate the CPU(90) of Cornick as well, since this constitutes a processor which controls and allows to be controlled, the operation of the grinder pumps.

Secondly, with regards to the modem board, although a modem board is not specifically used, Fewel does teach use of a monitoring system interface(40) which incorporates the use of a modem or other data transmission device to allow intercommunication between the signal line(38) of the filter(16) and the computer system(24)(see: column 2, lines 7-16). In view of this,

it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a modem board into the interface(40) of Fewel, since modem boards constitute low cost and dependable interface means which allow efficient intercommunication between devices over a signal line.

Lastly, with regards to the overriding function of the modem board or processor, the examiner takes Official Notice that in the data transmission art, use of modems which allow overriding of data transmission in order to allow telephone usage is well known. Since Fewel already desires the system to be connected with a phone system which allows data transmission utilizing a phone system, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the system of Fewel in view of Cornick into a home and as well to utilize the already existing home telephone line and modem with overriding telephone usage feature into the system of Fewel in view of Cornick, since this would have expanded the range of grinder pumps monitoring by allowing pumps in individual homes to be monitored, while at the same time keeping the cost of the system as low as possible by utilizing already existing home telephone lines to transmit the data. Furthermore, the system would have also been advantageous since it would have allowed monitoring of pumps without interference to normal telephone usage.

-- In considering **claims 8-9** the claimed permitting the level of the fluid in the receptacle to go below the bottom of the sensing tube is met by the grinder pump tank(10) including a sensor system(50) including probes(52,54, and 56) each of which being utilized to measure a certain level of the sewage in the tank(10) such that the CPU(90) allows the level of the fluid to go below the bottom of any of the sensing tubes as desired(see: column 9, lines 1-18). Furthermore,

allowing the level of the fluid to go below each of the sensing tubes(52,54,56) would have allowed the tubes to be recharged by allowing the tube to be cleared when the level of fluid would have gone below that particular tube.

As well, the CPU(90) would have allowed the fluid to be maintained at any level as desired since it would have controlled the activation/deactivation of the pumps as desired(see: column 9, lines 1-18). Therefore, one of ordinary skill would have recognized the advantage of maintaining the fluid above the bottom of the sensing tube or periodically below the sensing tube via the use of timers(see: column 9, lines 31-38) which would have allowed the pumps to operate at peak efficiency to as not to overload the system.

As well, all other claimed subject matter is met as discussed in claim 7 above.

-- In considering **claims 10 and 11**, the claimed subject matter that is met by Fewel includes:

1) the claimed processor, pressure transducer, and generator receptacle is met by the computer system(24), pressure transmitter(36), and vessel(14).

- **Fewel does not show:**

- 1) the claimed modem board(claim 10);
- 2) the claimed power loss high level alarm module(claim10);
- 3) the claimed at least one of modem board and processor comprises an override to allow use of a telephone by a homeowner over use of the telephone line during transmission data to a central computing unit(claim 11).

With regards to the modem board, although a modem board is not specifically used, Fewel does teach use of a monitoring system interface(40) which incorporates the use of a modem or other data transmission device to allow intercommunication between the signal

line(38) of the filter(16) and the computer system(24)(see: column 2, lines 7-16). In view of this, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a modem board into the interface(40) of Fewel, since modem boards constitute low cost and dependable interface means which allow efficient intercommunication between devices over a signal line.

With regards to the overriding function of the modem board or processor, the examiner takes Official Notice that in the data transmission art, use of modems which allow overriding of data transmission in order to allow telephone usage is well known. Since Fewel already desires the system to be connected with a phone system which allows data transmission utilizing a phone system, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the system of Fewel in view of Cornick into a home and as well to utilize the already existing home telephone line and modem with overriding telephone usage feature into the system of Fewel in view of Cornick, since this would have expanded the range of grinder pumps monitoring by allowing pumps in individual homes to be monitored, while at the same time keeping the cost of the system as low as possible by utilizing already existing home telephone lines to transmit the data. Furthermore, the system would have also been advantageous since it would have allowed monitoring of pumps without interference to normal telephone usage.

With regards to the claimed power loss high level alarm module, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a power loss alarm into the system of Fewel, since loss of power would have caused a significant increase in permeability of the system which is a parameter that would have been already

monitored by the system of Fewel, the alerting of which would have helped ensure proper operation of the system.

-- In considering **claims 12-13** the claimed permitting the level of the fluid in the receptacle to go below the bottom of the sensing tube is met by the grinder pump tank(10) including a sensor system(50) including probes(52,54, and 56) each of which being utilized to measure a certain level of the sewage in the tank(10) such that the CPU(90) allows the level of the fluid to go below the bottom of any of the sensing tubes as desired(see: column 9, lines 1-18). Furthermore, allowing the level of the fluid to go below each of the sensing tubes(52,54,56) would have allowed the tubes to be recharged by allowing the tube to be cleared when the level of fluid would have gone below that particular tube.

As well, the CPU(90) would have allowed the fluid to be maintained at any level as desired since it would have controlled the activation/deactivation of the pumps as desired(see: column 9, lines 1-18). Therefore, one of ordinary skill would have recognized the advantage of maintaining the fluid above the bottom of the sensing tube or periodically below the sensing tube via the use of timers(see: column 9, lines 31-38) which would have allowed the pumps to operate at peak efficiency to as not to overload the system.

As well, all other claimed subject matter is met as discussed in claim 10 above.

-- **Claims 18-19** recite subject matter that is met as discussed in claim 1 above, except for:

- 1) the claimed modulating the voltage of an alternating current line at the first location to generate a series of pulses corresponding to the information(claim 18);
- 2) detecting the series of pulses in the high voltage line at the second location(claim 18);
- 3) determining the data at the second location based on the series of pulses(claim 18);

4) the modulating comprising amplitude modulation(claim 19).

With regards to the above stated claimed subject matter of claims 18 and 19, the examiner takes Official Notice that in the signal transmission art, user of high voltage AC current lines for transmitting and receiving data is well known in the art. Furthermore, use of amplitude modulation for transmitting that data is also well known.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a High voltage AC line into the system of Fewel in view of Cornick, and as well to use amplitude modulation so as to transmit the data over the lines, since this would have allowed transmission of data over already existing power lines, thereby reducing the complexity of the system by alleviating the need for separate communication lines in the system.

-- **Claims 20-21** recite subject matter that is met as discussed in claims 1 and 18 above.

-- In considering **claim 22**, it would have been obvious to one of ordinary skill in the art at the time the invention was made to repair the plurality of stations in response to maintenance warnings as desired, since the overall desire of Fewel in view of Cornick is monitoring and alerting of malfunctions such as ruptures and leaks(see: Fewel, column 2, lines 18-21), and therefore repair of the stations in response to maintenance warnings would have been most advantageous to help ensure proper and efficient operation of the stations.

As well, all other claimed subject matter is met as discussed in claim 1 above.

6. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cornick.

-- In considering **claim 14**, the claimed subject matter that is met by Cornick includes:

1) the claimed permitting the level of the fluid in the receptacle to go below the bottom of the sensing tube is met by the grinder pump tank(10) including a sensor system(50) including probes(52,54, and 56) each of which being utilized to measure a certain level of the sewage in the tank(10) such that the CPU allows the level of the fluid to go below the bottom of any of the sensing tubes as desired(see: column 9, lines 1-18).

Furthermore, allowing the level of the fluid to go below each of the sensing tubes(52,54,56) would have allowed the tubes to be recharged by allowing the tube to be cleared when the level of fluid would have gone below that particular tube.

-- In considering **claim 15**, as discussed in claim 14 above, the CPU would have allowed the fluid to be maintained at any level as desired since it would have controlled the activation/deactivation of the pumps as desired(see: column 9, lines 1-18). Therefore, one of ordinary skill would have recognized the advantage of maintaining the fluid above the bottom of the sensing tube or periodically below the sensing tube via the use of timers(see: column 9, lines 31-38) which would have allowed the pumps to operate at peak efficiency to as not to overload the system.

As well, all other claimed subject matter is met as discussed in claim 14 above.

-- **Claims 16 and 17** recite subject matter that is met as discussed in claim 14 above(see: column 9, lines 1-40).

REMARKS:

Response to Arguments

7. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection as stated above.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARYL C POPE whose telephone number is (703) 305-4838. The examiner can normally be reached on M-Th from 7:30 to 6:00 since the examiner works on a compressed work schedule in which every Friday is the examiner's day off.

All interviews requested, whether personal or telephonic, are to be scheduled for times during the examiner's work hours between Tuesday-Thursday.

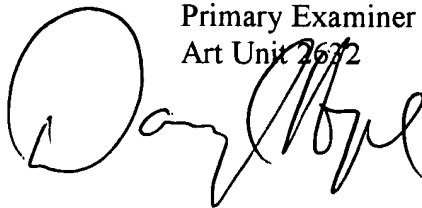
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DANIEL WU, can be reached on (703) 308-6730. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daryl C. Pope

Feb. 25, 2004

DARYL C POPE
Primary Examiner
Art Unit 2632

A handwritten signature in black ink, appearing to read 'Daryl C. Pope', is written over the printed name and title.